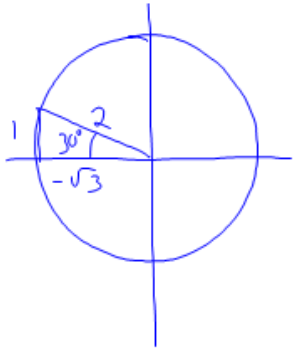
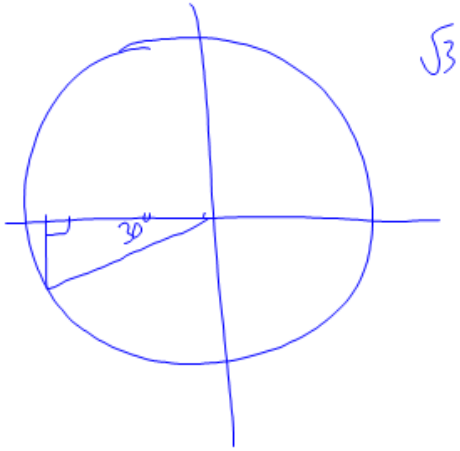
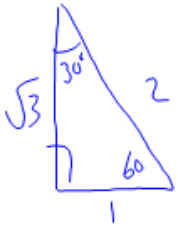
Speed Test

1. $\cos(30^\circ) = \frac{\sqrt{3}}{2}$
2. $\sin(90^\circ) = 1$
3. $\tan(180^\circ) = 0$
4. $\sin(60^\circ) = \frac{\sqrt{3}}{2}$
5. $\tan(60^\circ) = \sqrt{3}$
6. $\cos(60^\circ) = \frac{1}{2}$
7. $\sin(30^\circ) = \frac{1}{2}$
8. $\cos(120^\circ) = -\frac{1}{2}$
9. $\sin(150^\circ) = \frac{1}{2}$
10. $\tan(210^\circ) = \frac{\sqrt{3}}{3}$







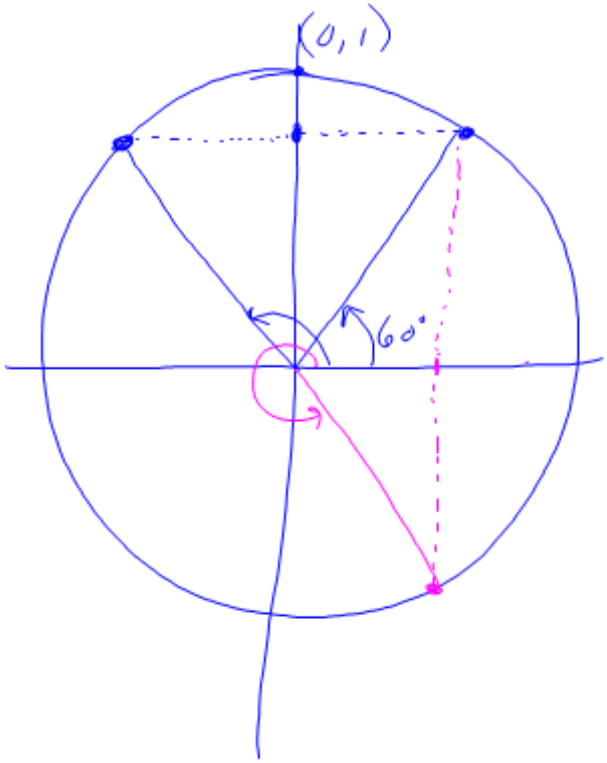
$\cos\theta = \frac{1}{2}$

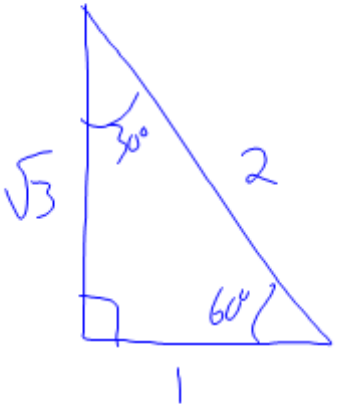
$\theta = 60, 300°$

$\sin\theta = \frac{\sqrt{3}}{2} \approx 0.866$

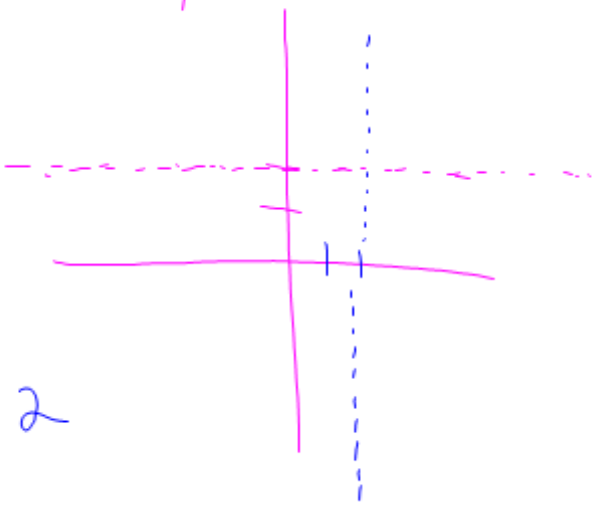
y

$\theta = 60°; 120°$

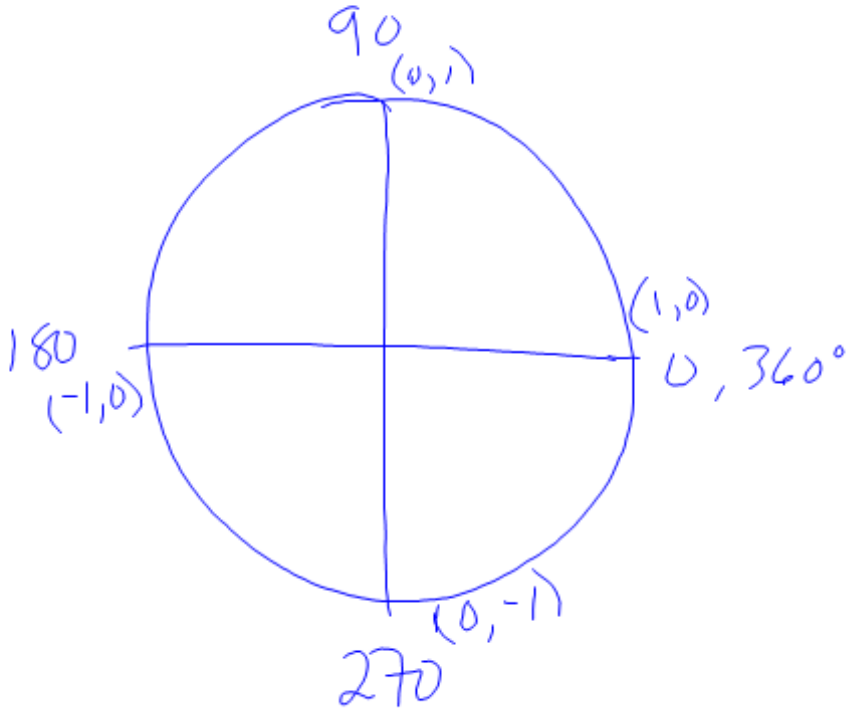




$y = 2$



$x = 2$



$\cos\theta = x$

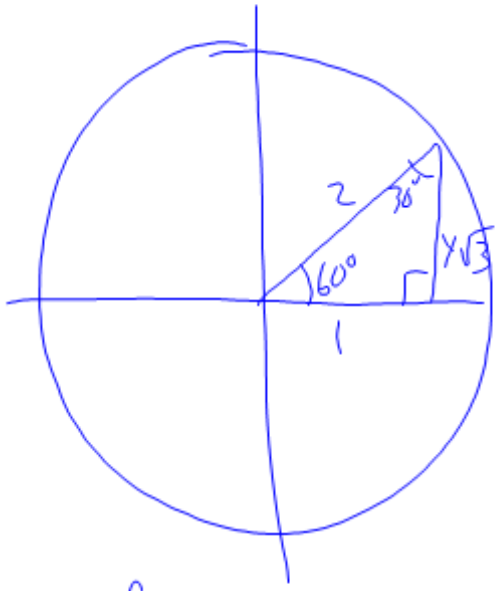
$\sin\theta = y$

$\tan\theta = \frac{y}{x}$

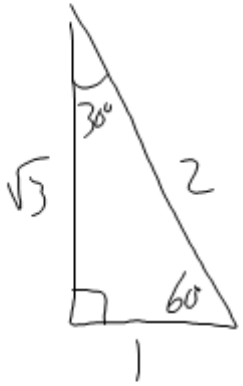
$\sin 90 = 1$

$\cos 180 = -1$

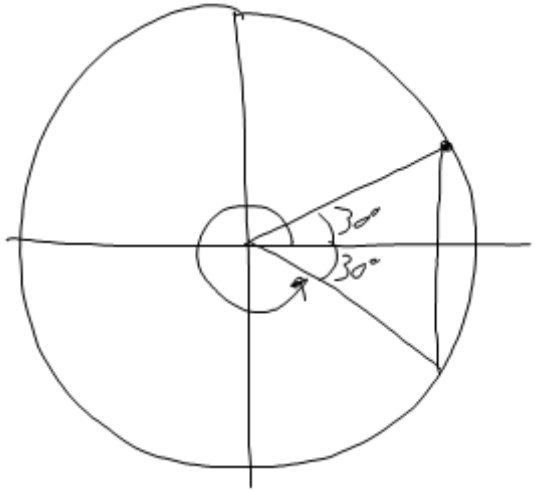
$\tan 270 = \frac{-1}{0} = \text{undef.}$



$\cos\theta = \frac{\sqrt{3}}{2}$ Find all θ in $(0, 360]$

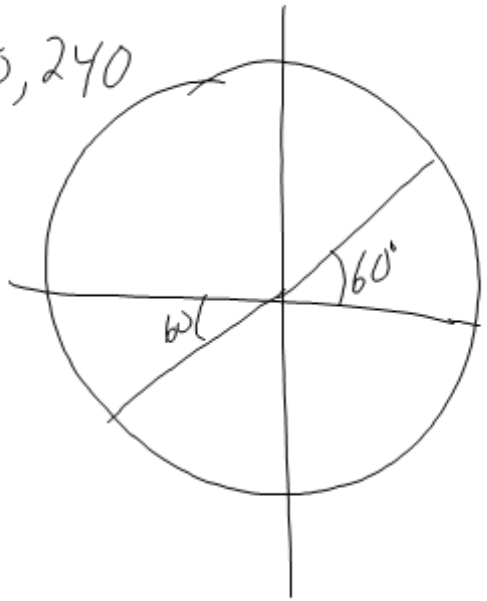


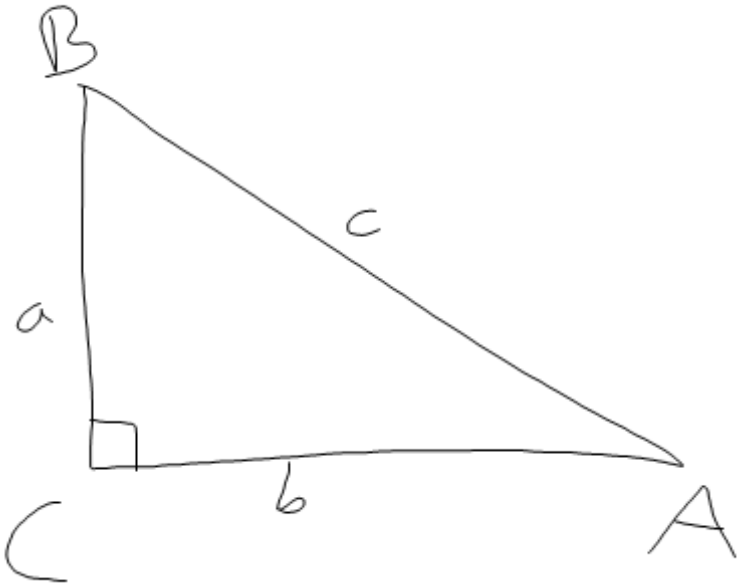
$\theta = 30, 330°$

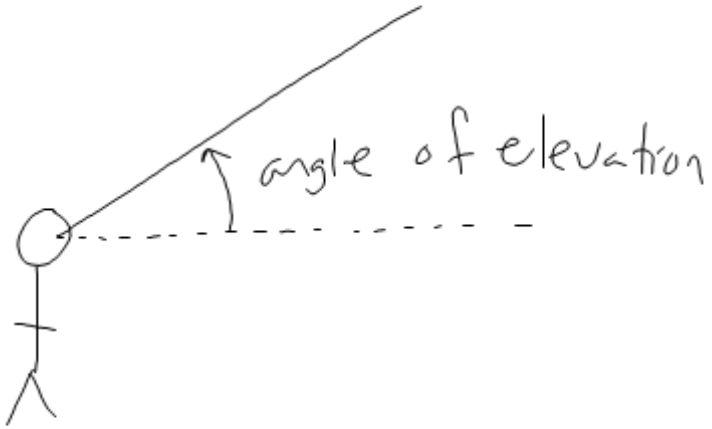


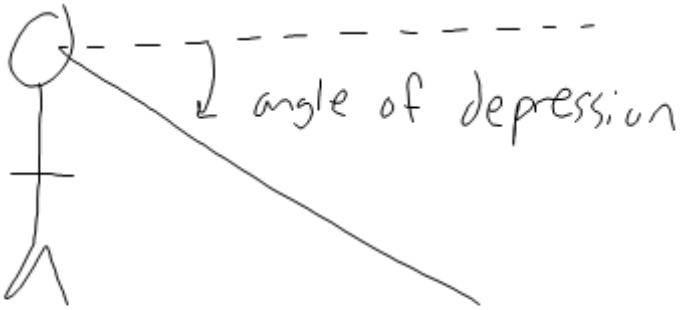
$\tan\theta = \sqrt{3}$

$\theta = 60, 240$





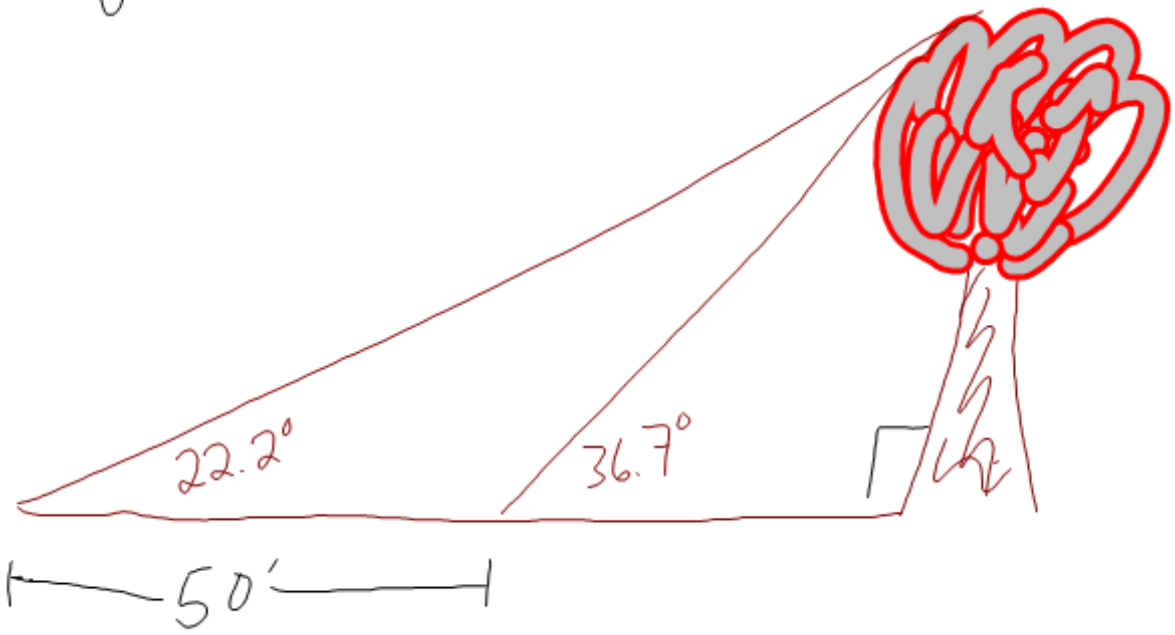


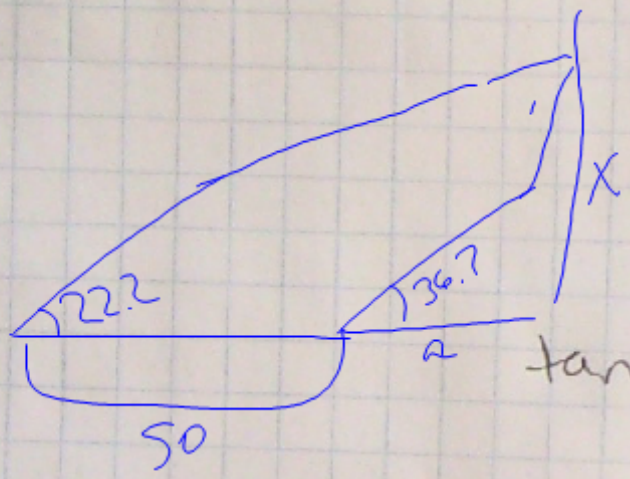


$a = 7,\ A = 32°,\ b = 18$

2.5

Betsy needs to know the height of a tree. From a given point she finds the angle of elevation to the top of the tree is 36.7°. She moves back 50 feet to a second point and finds the angle of elevation is 22.2°. Find the height of the tree.





$\tan 22.2 = \frac{X}{50+a}$

$\tan 36.7 = \frac{X}{a}$

$(50+a)\ .40809 = \frac{X}{50+a}(50+a)$

$(50+a).40809 = X$

$\tan 36.7 = \frac{(50+a).40809}{a}$

$.745377 = \frac{(50+a)4.0809}{a}$

$.745377a = (50+a).4.0809$

$.745377a = 20.4046 + .40809a$

$.745377a - .40809a = 20.4046$

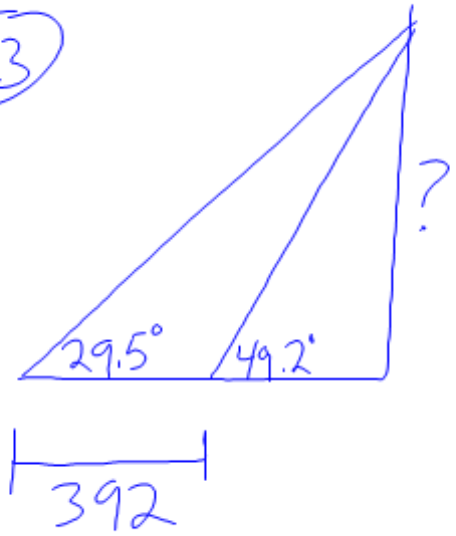
$.33728a = 20.4046$

$a = 60.4967$

$\tan 36.7 = \frac{X}{60.4967}$

$X = 45.093$

23



? = 433

HW

Sect. 2.4 #9-14(2), 19, 23, 35, 37

Sect. 2.5 #19, 23, 24, 26